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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,379	08/20/2001	Ken W. Marr	2008.000282	7000
23720	7590	11/28/2003	EXAMINER	
WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			FARAHANI, DANA	
			ART UNIT	PAPER NUMBER

2814

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/933,379

Applicant(s)

MARR, KEN W.

Examiner

Dana Farahani

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-43 and 45-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-43 and 45-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 36, 37, 39-43, 45, 46, and 48-52 are rejected under 35 U.S.C. 102(e) as being unpatentable over Yang (U.S. Patent 6,040,603), previously cited, in view of Hsing et al., hereinafter Hsing (U.S. Patent 5,517,046), newly cited.

Regarding claims 36, 37, 39-43, 45, 46, and 48-50, Yang discloses in figure 3 a method comprising providing a first doped region (P-Well); providing first and second doped wells 309 within the first doped region; forming a first doped plug 307 within the first doped region, and a first distance from the first doped well, the first distance provides a desired breakover voltage; forming a second doped plug 305 in the first doped region; and forming an isolation structure 303 between the first and second doped plugs. Yang further discloses a gate terminal at the top of the device, which comprises dielectric and conductors 303 and 301, respectively; and the doped plugs are n-types (see figure 3).

Yang does not explicitly disclose selecting a first distance to a boundary of the first doped well to provide a desired breakover voltage between the first doped plug and the first doped region.

Hsing teaches at column 7, lines 34-41, that by adjusting the distances of a first type doped region inside another first type doped region, a desired breakdown voltage can be achieved. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the distance of the first doped plug from the boundary of the well in order to have the desired break-down voltage.

Regarding claims 51 and 52, Yang in view of Hsing renders obvious the claimed invention, as discussed above, also disclosing in figure 1, an ESD protection circuit pad 107 connected to an integrated circuit 103, forming a bond pad, above the NMOS, on a semiconductor substrate; forming a voltage source node, below the NMOS, shown as an arrow, on a semiconductor substrate; coupling the first doped plug of the NMOS to the bond pad; coupling the second doped plug of the NMOS to the voltage source; and forming at least one integrated circuit, shown with an arrow at the right end of the figure, on the semiconductor substrate coupled to the bond pad.

3. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Hsing, as applied to claim 51 above, and further in view of Pilling et al., hereinafter Pilling (U.S. 5,838,624), previously cited.

Yang in view of Hsing renders obvious the claimed invention, as discussed above, except for an anti-fuse network being coupled to the ESD circuitry.

Pilling discloses an anti-fuse network is susceptible to damage from ESD levels (see column 2, lines 51-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the ESD protection circuit Yang

discloses in connection with an anti-fuse network in order to protect the anti-fuse network from the damage due to electrostatic discharge.

4. Claims 38, 47, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Hsing, as applied to claims 37, 46 and, 51 above, and further in view of Matsukawa (U.S. 5,182,227), previously cited.

Yang in view of Hsing renders obvious the claimed invention, as discussed above, except for isolation structure 303 being LOCOS oxide, or a surface trench filled with oxide.

Matsukawa discloses LOCOS oxide film 13 is used to isolate the electrical components on a substrate (see figure 8; column 4, lines 62-68; and column 5, lines 1-4). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use LOCOS oxide film in order to insulate the diodes of the claimed invention (diode 1 being regions 108, 110, and 102; and diode 2 being regions 104, 106, and 102, all of figure 5 of the claimed invention).

Response to Arguments

5. Applicant's arguments filed on 8/25/03 with respect to the rejected claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

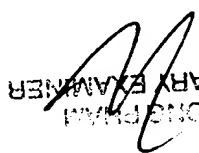
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

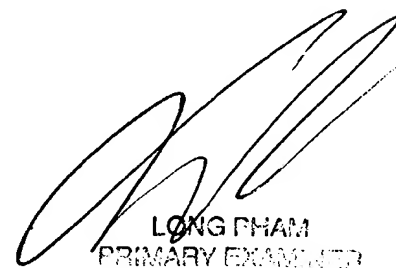
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Farahani whose telephone number is (703)305-1914. The examiner can normally be reached on M-F 8:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703)308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

D. Farahani


LONG PHAM
PRIMARY EXAMINER


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PRIMARY EXAMINER